

Application No.: 10/806556
Docket No.: EL0508USNA

Page 2 OCT 31 2007

Amendments to Claims

1. (Currently amended) A conductive composition for use as a coating on a substrate wherein said substrate is an automotive defogging or defrosting element, or is a printed window aerial or antenna consisting of

(a) 50-95 wt % finely divided particles of an electrically-conductive material dispersed in:

(b) a liquid vehicle, for use in the manufacture of an electrically-conductive pattern on a substrate for the use of reducing cross-sectional area and width while retaining conductivity and resistivity

wherein said substrate is an automotive defogging or defrosting element, or is a printed window aerial or antenna.

2. (Currently amended) A conductive composition, for use as a coating on a substrate, wherein said substrate is an automotive defogging or defrosting element, or is a printed window aerial or antenna comprising:

(a) finely divided particles of an electrically-conductive material;

(b) an inorganic binder selected from lead borates, lead silicates, lead borosilicates, cadmium borate, lead cadmium borosilicates, zinc borosilicates, sodium cadmium borosilicates, bismuth silicates, bismuth borosilicates, bismuth lead silicates, bismuth lead borosilicates, oxides or oxide precursors of metals, and mixtures thereof; dispersed in

(c) a liquid vehicle wherein the total composition contains 50-95 % by weight solids and wherein said inorganic binder is present at less than ~~1.0%~~ 0.8 % of the total solids in the composition;

wherein said substrate is an automotive defogging or defrosting element, or is a printed window aerial or antenna.

3. (Currently amended) The composition of Claim 2 wherein said electrically-conductive material is selected from the group consisting of silver, gold, platinum, or and palladium and mixtures thereof.

4. (Withdrawn) A process for the manufacture of an electrically-conductive pattern, said process comprising:

Application No.: 10/806556
Docket No.: EL0508USNA

Page 3

providing a substrate;
providing on at least a part of said substrate a layer of enamel;
applying onto said enamel the conductive composition of any one of claims 1 to 3;
firing the coated substrate.

5. (Withdrawn) An article comprising a substrate having on at least a part thereof a layer of enamel, and on at least a part of said enamel an electrically-conductive pattern, said electrically-conductive pattern is formed from a conductive composition comprising: (a) finely divided particles of an electrically-conductive material; (b) an inorganic binder selected from lead borates, lead silicates, lead borosilicates, cadmium borate, lead cadmium borosilicates, zinc borosilicates, sodium cadmium borosilicates, bismuth silicates, bismuth borosilicates, bismuth lead silicates, bismuth lead borosilicates, oxides or oxide precursors of metals, and mixtures thereof; dispersed in (c) a liquid vehicle wherein said inorganic binder is present from 0 to 1.0% of the total solids in the composition.

6. (Currently amended) The composition of Claim 1 wherein said electrically-conductive material is selected from the group consisting of silver, gold, platinum, or palladium and mixtures thereof.

7. (Previously submitted) A conductive composition consisting of:
50-95 wt % finely divided particles of an electrically-conductive material selected from the group consisting of silver, gold, platinum, palladium and mixtures thereof dispersed in a liquid vehicle, selected from an organic vehicle and an aqueous vehicle for use in the manufacture of an electrically-conductive pattern on a substrate for the use of reducing cross-sectional area and width while retaining conductivity and resistivity.

8. (Previously submitted) The composition of Claim 7 wherein the electrically-conductive material is silver.

9. (Previously submitted) The composition of Claim 1 wherein the electrically-conductive material is silver.

Application No.: 10/806556
Docket No.: EL0508USNA

Page 4

10. (Previously submitted) A conductive composition consisting essentially of:
(a) 50-95 wt % finely divided particles of an electrically-conductive material dispersed in (b) a liquid vehicle, for use in the manufacture of an electrically-conductive pattern on a substrate for the use of reducing cross-sectional area and width while retaining conductivity and resistivity, and wherein the composition does not contain an inorganic binder.
11. (Previously submitted) A conductive composition comprising:
(a) finely-divided particles of an electrically-conductive material;
(b) an inorganic binder selected from lead borates, lead silicates, lead borosilicates, cadmium borate, lead cadmium borosilicates, zinc borosilicates, sodium cadmium borosilicates, bismuth silicates, bismuth borosilicates, bismuth lead silicates, bismuth lead borosilicates, oxides or oxide precursors of metals, and mixtures thereof; dispersed in (c) a liquid vehicle wherein the total composition contains 50-95 % by weight solids and wherein said inorganic binder is present at less than 0.5% of the total solids in the composition.
12. (Previously submitted) The composition of claim 2, wherein said inorganic binder is a lead-free inorganic binder.
13. (Previously submitted) The composition of claim 2, wherein said inorganic binder consists essentially of Bi_2O_3 , B_2O_3 , SiO_2 , CaO , ZnO , and Al_2O_3 .
14. (Previously submitted) The composition of Claim 2, including a binder in an amount of less than 0.5 % based on the total weight of the composition.
15. (Previously submitted) The composition of Claim 2, including a binder in an amount of less than 0.3 % based on the total weight of the composition.
16. (Previously submitted) The composition of Claim 2, including a binder in an amount of less than 0.1 % based on the total weight of the composition.